WHITE
PAPER

LifeSafety Power®

August 2016

Why Specify Managed Power

Without it, there's no guarantee
of continual connectivity

Power is knowledge.™
LifeSafety Power®

WHITE PAPER

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Preface

Power. The heartbeat of any integrated security and life safety system. **LifeSafety Power® Inc**., Mundelein, Ill., is a perpetual innovator in the power and networking category. We understand how the market is changing and the role that proactive alerts, health statuses and other managed power solutions lend in providing critical uptime to access control, video and other physical security devices riding on the network. Now, managed power equals greater connectivity.

This white paper: "Why You Need to Specify Managed Power," has been written to provide an in-depth look at the critical need to include managed power in every integrated security specification. Our second white paper: "The Compelling ROI of Managed Power Solutions," provides detailed costing and potential pricing so specifiers, integrators and end users can realize greater profitability and return on investment with their implementations. For more information, visit www.lifesafetypower.com.

Introduction

The movement of security devices to reside on networks has given rise to a host of issues and opportunities that not only enable these devices to work together to provide more effective security but also allow integrated solutions to be monitored and supervised to ensure their continuing operation. Too often, the latter point is overlooked.

Increasingly, humans are presented with an array of devices which help us monitor our own body performance - pulse, heart rhythm, skin temperature, light exposure and noise levels, for example. Of these and others, cardiovascular functions are arguably the most important.

While the network may be compared to the body's nervous system, it is power that bears closest resemblance to the circulatory system. Monitoring and managing the current flows through the system can lead to increased longevity and performance, as well as avoidance of unexpected surprises in the form of device failures.

The concept of power monitoring and management is not new. For decades, electrical utilities have deployed intelligent systems to maintain a continual flow of energy to their customers, constantly balancing energy supply with user demands and rerouting flows when problems arise. Over the past several years, this thought process has entered the conversation in the electronic security market where random device failures or loss of power are simply unacceptable.

If the power supply can be compared to the heart and current to blood flow, monitoring and managing the health of both will contribute to the continued safe operation of the security system.

What is Managed Power?

Managed power has a number of possible physical elements:

Main Power Supply

Monitoring: Incoming AC power, unit temperature, surrounding air temperature, power supply current, tamper switch, blown fuse, short circuit, system fault, dc output, earth ground fault

Management: AC loss/Fire override for egress control, alerts and reports

Power System Outputs

Monitoring: Output voltages, output currents, fault status

Management: On/off power control to devices, event activation, alerts and reports

Supervised Inputs

Monitoring: Input voltage values, fire alarm input status

Management: Fire alarm interface activation, alerts and reports

Standby Batteries

Monitoring: Battery presence, charging voltage and current

Management: Local and remote battery test, aging and condition reports

Managed power has four primary functional elements

Monitor → Alert → Manage → Report

With continuous power supply system monitoring comes the opportunity for creating real time action alerts and reports for system maintenance and management.

Alerts may include email, SNMP, XML, or web browser notification for such areas as:

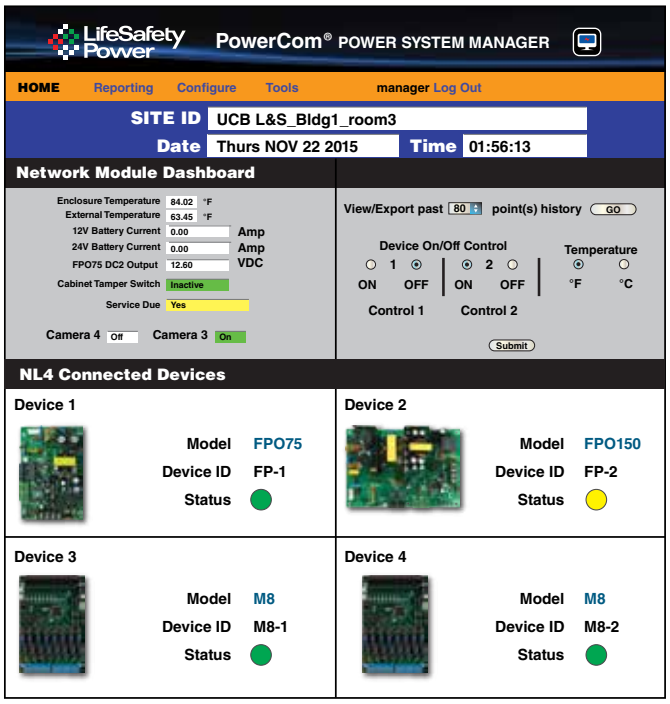
- AC Loss or Brownout
- Over / Under Current
- Battery Presence
- Earth Ground Fault
- Blown Fuse
- Abnormal DC Output
- System Fault
- Over Temperature
- Over / Under Voltage
- Tamper Switch
- Fire Alarm Input Status
- Out of Range Alerts

Management capability provides the means to actively affect something. For example, managed outputs may be individually activated or deactivated to shut down or recycle equipment through an embedded browser interface and then monitored for voltage and current values via network or Internet.

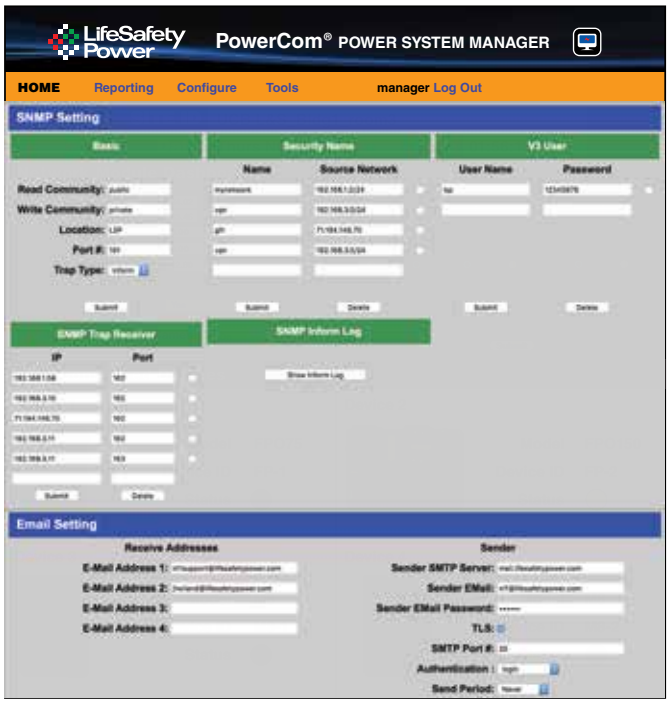
Trigger points for outputs may be adjusted to generate an alert when that output is outside of selected parameters. An output might be configured to activate a connected HVAC function based on surrounding room temperature. Local or remote battery testing may be performed on demand or on schedule. Systems may be configured to provide notifications for service due and battery replacement.

Reporting can provide valuable insight into device or system history and should be available on demand or as defined periodically. Maintaining a site's operational history with data logging of 1,000 events is possible with today's managed power systems providing more than a year of system history.

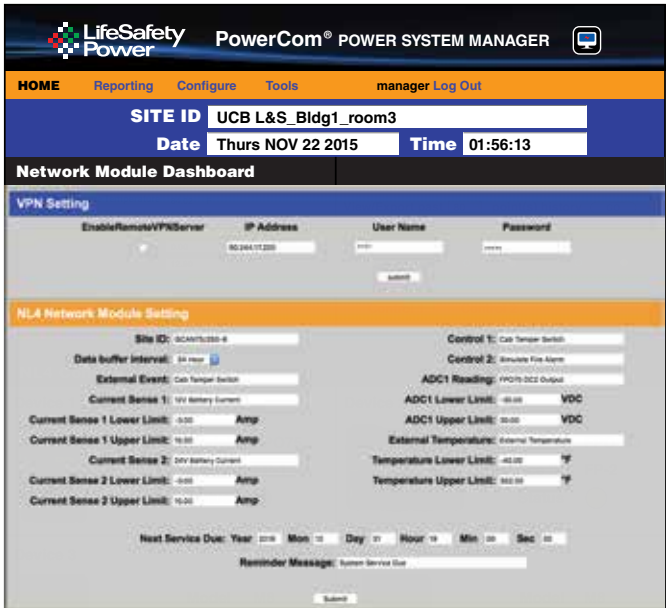
MONITOR



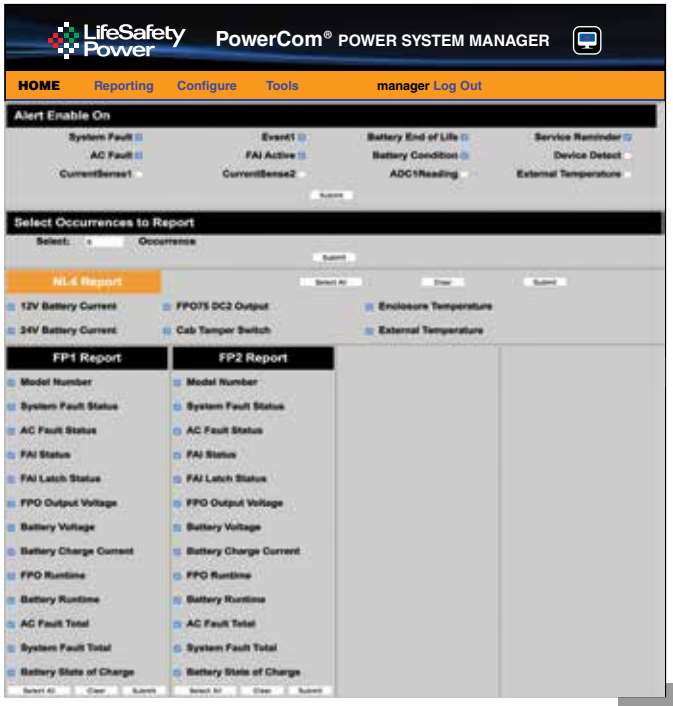
ALERT

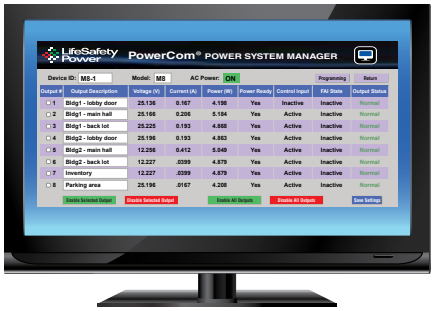


MANAGE



REPORT





Why Specify Managed Power?

Consultants are charged with providing robust, effective, reliable security solutions to their clients. Thus, there are many compelling reasons to specify managed power systems.

Improves Security of Equipment and Protected Assets and People

It's simple. Non-functioning or failing equipment cannot provide its intended function. By monitoring current to a device and being alert to system values moving to an unacceptable range, the chances of sudden catastrophic failure of security equipment may be minimized.

Enhances Reliability

Monitoring voltage, current, power draw of attached devices can help spot performance degradation and predict impending failure. Problems may relate to device temperature, fan performance, mechanical or component issues.

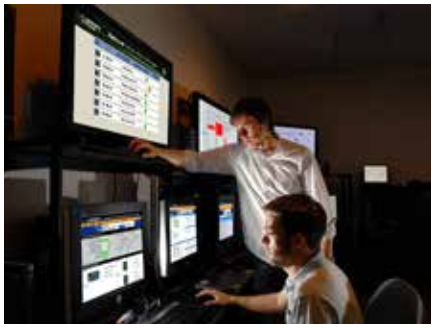
Batteries attached to power supplies will degrade over time and become incapable of providing backup power for the required period of time. A system that can verify battery performance, optimize its charge profile and maintain its history helps to ensure the battery will be there when needed.

Supports Compliance

UL standards for security devices specify voltage ranges, standby time and other parameters directly related to power. Management supports ongoing compliance.

"Empowers" the Security and Facilities Staff

When armed with important information about their low voltage power system, the security director and facilities staff can be proactive about maintenance, repair and device replacement. For example, if there are periodic or sporadic problems with incoming AC power, facilities should be brought in to communicate with the local power utility or provide appropriate power conditioning or surge protection.



Enables Local or Remote Monitoring

Whether monitoring is performed from the Local Area Network (LAN) or outside the LAN, managed power systems with appropriately provisioned web browser interfaces provide the capability to not only predict but to implement actions in critical situations. For example, an impending environmental event may call for constant monitoring or perhaps shutdown of selected devices.

Supports Situational Awareness

Network monitoring and management systems typically rely on the Simple Network Management Protocol (SNMP). When a managed power system supports SNMP, it becomes eligible to be monitored, and possibly controlled, by a higher level system. This creates the opportunity for IT to have greater ownership in addressing selected problems affecting security. Through the development of security industry standards, such as the Physical Security Interoperability Alliance (PSIA), which encourage "plug and play" interoperability, managed power systems can share the information and intelligence they generate with a wide range of other devices, services and systems.

Supports Cyber Security

An appropriately provisioned managed power system supports strong cybersecurity. Since not all power systems are created equal, look for:

- Salted password hashing to provide secured user log in and lock out a user account when a password has been entered incorrectly several consecutive times.
- HTTPS access (secure, encrypted HTTP web access)
- Protection algorithm against Cross Site Request Forgery (CSRF)
- SNMP v3 availability (it's encrypted)
- Definitive customer guidance from the manufacturer

CSI MasterFormat Provision

MasterFormat 2016 Division 28 now provides a category for Power Source Monitoring and Power Source Monitoring Appliances under the category Power Sources for Electronic Safety and Security (see 28 05 00). Managed Power now has a natural place to be specified and should be included where possible.

Supports LEED

By understanding the power consumption of its low voltage power network, security can be an active contributor to LEED objectives. For example, Houle Electric, Vancouver, B.C., offers intelligent power to its customers. With its deployed power solutions, Houle Electric measures load distribution and peak usage, among other things, which helps meet requirements of LEED projects and green objectives. It also helps the company better plan for and anticipate any challenges or issues with remote monitoring of product solutions.

In summary, given the criticality of maintaining equipment and system uptimes, it makes good operational and financial sense to ensure that everything possible is being done to maintain and monitor the health of the electronic security power system and back-up power sources. Consultants, designers, engineers, and integrators, owe it to their clients to provision the best possible power system.

Conclusion

There's no money in static hardware that you simply install and leave behind. LifeSafety Power's intelligent power solutions bring a new value proposition to the systems integrator in the way of tangible, managed services. With remote monitoring, LifeSafety Power's products bring keen situational awareness to the customer's facility and their networked power solutions. It's the future of connectivity, here today.

About LifeSafety Power — Power is Knowledge™

LifeSafety Power is the leader in Smart Power Solutions and patented remote monitoring capabilities, providing modular AC, DC, and PoE power systems that meet the growing needs of the life safety and security industries. Realizing that network technology presents new opportunities for active monitoring and management of power supplies connected to access control systems, fire systems, video surveillance and more, the company has built its products from day one with intelligence and functionality in mind. LifeSafety Power's current product offering and planned future innovations in battery test, display and diagnostics represent an important step in providing overall system reliability and uptime.

All of the product features discussed in this white paper are available within LifeSafety Power's product line.

Visit www.lifesafetypower.com for more information.

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